

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application (and assumes that the non-compliant Amendment was not entered):

Listing of Claims:

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1. (Currently amended) A method of treating an implantable biological tissue, said method comprising stabilizing glycosaminoglycans on the tissue and cross-linking proteins on the tissue, wherein the glycosaminoglycans stabilizing comprises contacting the tissue with (a) a water-soluble carbodiimide composition having a pH of 6.9 to 7.9, (b) a carbohydrate oxidizing agent, or (c) a heterofunctional azide reagent, provided that when the stabilizing comprises contacting the tissue with the water-soluble carbodiimide composition, the cross-linking comprises contacting the tissue with glutaraldehyde.

2. (Original) The method of claim 1, wherein said glycosaminoglycans are endogenous to the tissue.

3. (Original) The method of claim 2, wherein the tissue is a part of an implantable bioprosthetic device.

4. (Original) The method of claim 3, wherein said device is selected from the group consisting of a heart valve prosthesis, a vascular graft, a skin graft, a dura mater graft, a cartilage graft, a cartilage implant, a pericardium graft, a urinary bladder prosthesis, a ligament prosthesis, and a tendon prosthesis.

5. (Original) The method of claim 4, wherein said device is a heart valve prosthesis.

6. (Original) The method of claim 5, wherein said heart valve prosthesis is

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selected from the group consisting of a porcine heart valve and a bovine pericardium-derived heart valve prosthesis.

Claims 7-9 (Canceled)

C2 ~~710.~~ (Currently amended) The method of claim ~~7-1~~, wherein stabilization of glycosaminoglycans on the tissue is achieved prior to cross-linking proteins on the tissue.

~~811.~~ (Original) The method of claim ~~10~~, wherein

a) the difference between i) the thermal shrinkage temperature of the tissue after contacting the tissue with said carbodiimide and ii) the thermal shrinkage temperature of the tissue prior to contacting the tissue with said carbodiimide is less than half of

b) the difference between i) the thermal shrinkage temperature of the tissue after cross-linking proteins on the tissue and ii) the thermal shrinkage temperature of the tissue prior to cross-linking proteins on the tissue.

C3 ~~912.~~ (Currently amended) The method of claim ~~7-1~~, wherein said carbodiimide is 1-ethyl-3-(3-dimethyl aminopropyl) carbodiimide. -

13. (Cancelled)

14. (Original) The method of claim 1, wherein stabilization of glycosaminoglycans on the tissue ~~is~~ achieved by contacting the tissue with a carbohydrate oxidizing agent to generate aldehyde groups on said glycosaminoglycans and contacting the tissue with a bi-functional carbohydrate-protein linking agent.

Claims 15-25 (Cancelled)

C4 ~~26.~~ (Reinstated - formerly dependent claim 15) The method of claim 14, wherein said carbohydrate oxidizing agent is selected from the group consisting of bromine,

periodate, nitric acid, and lead ~~tetra~~acetate.

27. (New) The method of claim 14, wherein said bi-functional carbohydrate-protein linking agent is selected from the group consisting of glutaraldehyde, a diamine, and an azido hydrazide.

28. (Reinstated - formerly dependent claim 17) The method of claim 1, wherein stabilization of glycosaminoglycans on the tissue is achieved by contacting the tissue with a heterofunctional azide reagent.

29. (New) The method of claim 28, further comprising contacting the tissue with an agent for linking said heterofunctional azide reagent and extracellular protein or glycosaminoglycan in the tissue.

Cal 30. (New) The method of claim 29, wherein said agent for linking said heterofunctional azide reagent and extracellular protein in the tissue is a member selected from the group consisting of a dithiol, dithiothreitol, a di-aldehyde, glutaraldehyde, a di-carbonyl compound, a carbodiimide, and an epoxide.

31. (Reinstated - formerly dependent claim 20) The method of claim 1, wherein said glycosaminoglycans are endogenous to the tissue.

32. (New) The method of claim 1, wherein the cross-linking comprises contacting the tissue with glutaraldehyde.

33. (New) The method of claim 1, wherein the cross-linking comprises contacting the tissue with glutaraldehyde, provided that the cross-linking is performed after the stabilizing of glycosaminoglycans.

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34. (Reinstated - formerly dependent claim 21) A biological tissue treated by

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the method of claim 1.
